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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/251,297	02/17/1999	J. FREDERICK LARRICK JR.	KMH-029COMBO	3077

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EXAMINER

FAN, CHIEH M

ART UNIT PAPER NUMBER

2634

DATE MAILED: 09/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/251,297

Applicant(s)

LARRICK ET AL.

Examiner

Chieh M Fan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,7,14 and 21-28 is/are rejected.
- 7) ☒ Claim(s) 1,4,6,8-13 and 15-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 6/3/02 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,026,125 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the examiner cannot find the term "range measuring" mentioned anywhere in the application except in the claims (claim 1 and its dependent claims).

Claim Objections

3. Claims 1, 2, 4, 6-20 and 22 are objected to because of the following informalities:
Regarding claims 1 and 6-13,

a. "a signal representing said ultra-wideband signal" in lines 9-10 of claim 1 should be changed to "a signal representing said filtered low-level ultra-wideband signal" to improve the clarity of the claim.

Regarding claims 2 and 14-20,

- a. "[waveform adaptive]" in line 5 of claim 2 should be deleted;
- b. "said ultra-wideband signals" in line 3 of claim 14 should be changed to "said radiated ultra-wideband signal".

Regarding claim 4,

- a. "controlling said low-level ultra-wideband signal" in line 12 should be "controlling said low-level ultra-wideband signals".

Regarding claim 22,

- a. "amplifying said switched impulse, low-level ultra-wideband signal" in lines 2-3 should be changed to "amplifying said waveform-adapted, low-level ultra-wideband signal" since the amplifier is placed between the waveform adapter and the antenna.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3 and 21-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not teach a method for detecting an object. The applicants are requested to point out which portion of the specification teaches the claimed invention, especially the steps of radiating upon said object and receiving an echo.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "said ultra-wideband signal" in lines 2-3. It is not clear this limitation is referred to the "low-level waveform adaptive ultra-wideband signal" (lines 4-5 of claim 1) or the "filtered low-level ultra-wideband signal" (line 8 of claim 1) or the "radiated ultra-wideband signal" (lines 11-12 of claim 1).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 2, 3, are rejected under 35 U.S.C. 102(e) as being anticipated by McEwan (US Patent 5,521,600).

Regarding claim 2, McEwan teaches a communication system utilizing an ultra-wideband transmitter, said system comprising:

a switched impulse generator (16, 15, 12 in Fig. 1) including one of an impulse-excited oscillator and a UWB impulse generator to generate a low-level ultra-wideband signal;

a waveform adapter (17, 10 in Fig. 1) responsive to said impulse generator;
an antenna (11 in Fig. 1) responsive to said waveform adapter to radiate a representation of said ultra-wideband signal; and

a receiver (21, 22, 23, 24, 25, 26, 27, 33 in Fig. 1) for receiving said radiated ultra-wideband signal.

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Regarding claim 3, McEwan teaches a method for detecting an object utilizing ultra-wideband transmitting techniques, said method comprising:

generating a switched impulse, low-level ultra-wideband signal (16, 15, 12 in Fig. 1);

waveform adapting said switched impulse, low-level ultra-wideband signal (17, 10 in Fig. 1);

radiating (11 in Fig. 1) upon said object (20 in Fig. 1) a signal representing said waveform-adapted, ultra-wideband signal; and

receiving (21 in Fig. 1) an echo of said radiated, waveform adapted, ultra-wideband signal thereby to detect said object (33 in Fig. 1).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McEwan (US Patent 5,521,600) in view of Ross et al. (US Patent 5,337,054) and Nicolson et al. (US Patent 3,983,422).

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Regarding claim 14, as described above with respect to claims 3, McEwan teaches the claimed invention except a tunnel diode is used to detect the ultra-wideband signal. However, a tunnel diode threshold ultra-wideband receiver has been widely used in the art. An example may be seen in Ross et al. (see abstract). Further, Nicolson et al. (US Patent 3,983,422) teaches the use of a tunnel diode in a detector has the advantage of being a device which is commercially available with specified parameters (col. 1, lines 57-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a tunnel diode into the receiver of McEwan for the advantage described above.

Regarding claim 21, as described above with respect to claims 4, McEwan teaches the claimed invention except a tunnel diode is used to detect the ultra-wideband signal. However, a tunnel diode threshold ultra-wideband receiver has been widely used in the art. An example may be seen in Ross et al. (see abstract). Further, Nicolson et al. (US Patent 3,983,422) teaches the use of a tunnel diode in a detector has the advantage of being a device which is commercially available with specified parameters (col. 1, lines 57-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a tunnel diode into the receiver of McEwan for the advantage described above.

Response to Arguments

12. Applicant's arguments filed 6/3/03 have been fully considered but they are not persuasive. The applicants argue that the examiner indicated, in the parent application 08/857,836, the allowable subject matter is that a ultra-wideband signal transmitter comprises of a switched impulse generator and a waveform adapter. In response to the argument, the applicants are reminded the examiner also specifically indicated in the reason for allowance that "the waveform adapter includes a filter that defines the center frequency and bandwidth of the low-level ultra-wideband pulses".

Allowable Subject Matter

13. Claims 1, 4, 6 and 8-13 would be allowable if rewritten to overcome the claim objection set forth in this Office Action.

Claims 15-20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (703) 305-

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0198. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM,
Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.


Chieh M Fan
Examiner
Art Unit 2634

cmf
August 24, 2002